

BEST AVAILABLE COPY

Energy  
Procurement  
Network



Power Network

Kw Demand	46	Kw	4362	RESPOND
Demand Interval	12			RESPOND
Demand Setpoint	64 Kw			RESPOND

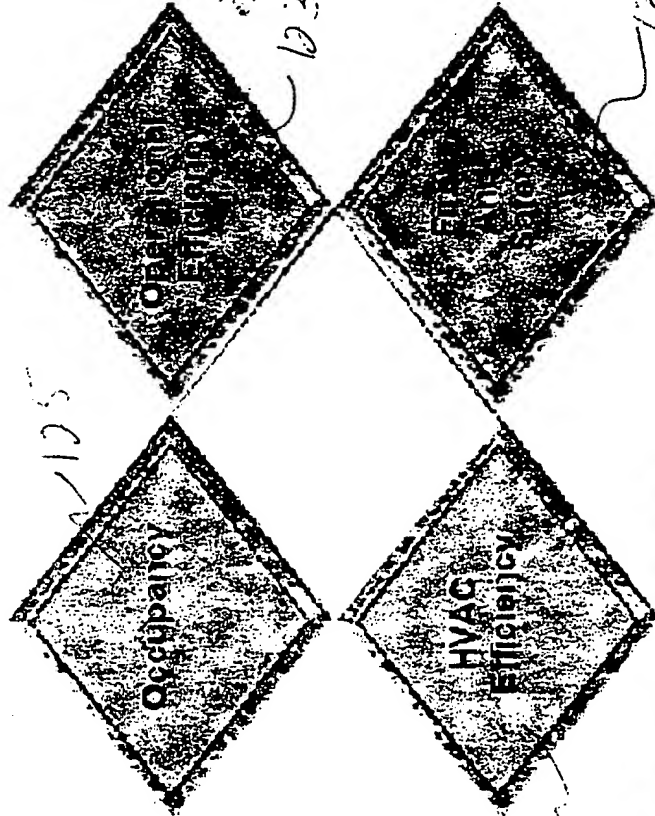
ALARM

HVAC Network

Outdoor Temp	72	Humid	30%	RESPOND
Return Air Temp	68	Humid	30%	RESPOND
Head Pressure	71			RESPOND
Discharge Air Temp	68			RESPOND
Suction Pressure	psi			RESPOND
Fan Run	ON	Motor	ON	RESPOND
Space Temp	72			RESPOND
Power To Unit	ON			RESPOND

ALARM

Facilities Network



JC594 U.S. PTO  
09/299124



1-10-11-12-13-14-15-16-17-18-19-20-21-22-23-24-25-26-27-28-29-30-31-32-33-34-35-36-37-38-39-40-41-42-43-44-45-46-47-48-49-50-51-52-53-54-55-56-57-58-59-60-61-62-63-64-65-66-67-68-69-70-71-72-73-74-75-76-77-78-79-80-81-82-83-84-85-86-87-88-89-90-91-92-93-94-95-96-97-98-99-100

**Real Time Electric Consumption and  
Energy Cost Analysis For Distribution  
Center #0**



Price per Kwh = 0

## Total Consumption Today

**\$44.55 for 469 Kw**

Price Off Peak Kwh=.07 cents...\$275

**Price On Peak Kwh=.09 cents...\$575**

**Demand Penalty=\$100.00**

**Pennsylvania  
Power And Light  
\$.089 per Kwh**

**Detroit Edison  
\$ .095 per Kwh**

Wisconsin  
Power And Light  
\$.099 per Kwh

**A.S.I.S.**

Pennsylvania	Wisconsin
Power And Light	Power And Light
\$ .089 per Kwh	\$ .099 per Kwh
	Detroit Edison
	\$ .095 per Kwh

151

Fig 5

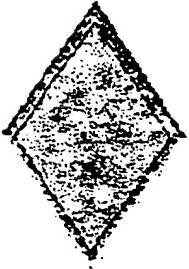
*[Faint, illegible handwritten text]*

<http://www.bur.com>

Provider Code	Providers on FJML ASIS
AE	Advanced Electric Company
BCE	Baker Electric Company
DPL	Dominion Power and Light Company
GRUP	Grupp Electric Company
PRC	Public Power Company
PPL	Pennsylvania Power and Light Company
PEP	Pennsylvania Electric Power Company
PHI	Philadelphia Electric Company
PSEG	Public Service Electric and Gas Company

1071

Figure 6



# Occupancy Report

RETURN

## OUTSIDE INFORMATION

# Of People Who Passed The Front Door/Gate

236

### Approximate Time That These People Walked By

8:00 AM to 10:00 AM 24  
10:30 AM to 1:00 PM 19  
1:00 PM to 3:30 PM 56

3:30 PM to 5:00 PM 144  
5:00 PM to 7:30 PM 26  
7:30 PM to 10:00 PM 89

## INSIDE INFORMATION

# Of People Who Entered The Front Door/Gate

Section A 24 Section D 1E  
Section B 34 Section E 22  
Section C 27 Section F 37

### Approximate Time That These People Entered

8:00 AM to 10:00 AM 10  
10:30 AM to 1:00 PM 24  
1:00 PM to 3:30 PM 16

3:30 PM to 5:00 PM 29  
5:00 PM to 7:30 PM 13  
7:30 PM to 10:00 PM 88

Figure 7

11/2/11

# Freehold Central Office

Total Facility Real Time Consumption

6138 Kw

Active Kw	354	Daily Kwh	1963
Load Interval	462	Yesterday Kwh	3804
Daily Peak Kw	592	Monthly Kwh	17635
Monthly Peak	662	Yearly Kwh	380387

Other Utilities Real Time Consumption

Gas Consumption	914	ccf
Steam Consumption	610	%mlb
Steam Demand	457	MLB
Oil Consumption	108	Gal.
Daily Water Consumption	9607	Gal.

Outdoor Temperature	78	°
Indoor Temperature	72	°
Outdoor Humidity	60	%

30ANET

## Freehold Central Office Floor Selector

Floor 6	
Floor 5	
Floor 4	
Floor 3	
Floor 2	
Floor 1	
Sublevel 1	
Sublevel 2	
Basement	

## Floor Plan Selector

RETURN

221  
Floor  
Services

Figure B

# Freehold Central Office

Total Facility Real Time Consumption

6136 Kw

Active Kw	352	Daily Kwh	1961
Last Interval	460	Yesterday Kwh	9802
Daily Peak Kw	590	Monthly Kwh	17633
Monthly Peak	640	Yearly Kwh	580385

Other Utilities Real Time Consumption

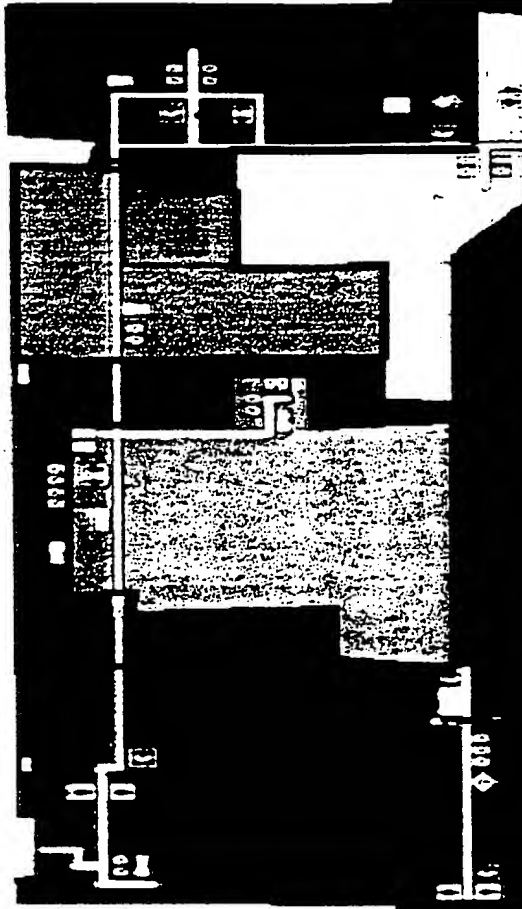
Gas Consumption	317	ccf
Steam Consumption	608	%mlb
Steam Demand	455	MLB
Oil Consumption	106	Gal.
Daily Water Consumption	9685	Gal.

Outdoor Temperature	76	°
Indoor Temperature	72	°
Outdoor Humidity	60	%

ONNET

Freehold Central Office

Hall Selector Fourth Floor



Click Here To Select Florence Hall

Figure 9



# Freehold Central Office

Total Facility Real Time Consumption  
6139 Kw

Active Kw	355	Daily Kwh	4964
Last Interval	463	Yesterday Kwh	9805
Daily Peak Kw	593	Monthly Kwh	17636
Monthly Peak	643	Yearly Kwh	580388

## Other Utilities Real Time Consumption

Gas Consumption	915	ccf
Steam Consumption	611	%mlb
Steam Demand	458	MLB
Oil Consumption	109	Gal.
Daily Water Consumption	9688	Gal.

Outdoor Temperature	79	°
Indoor Temperature	72	°
Outdoor Humidity	60	%

ONNET

# Freehold Central

## Room Selector For Lothar Hall Fourth Floor

Stairs

Elevators		Elevators		Elevators		Elevators	
Patient Room # 401	Patient Room # 403	Patient Room # 405	Patient Room # 407	Patient Room # 409	Patient Room # 411	Patient Room # 413	Patient Room # 415
Side A		Side B		Side A		Side B	
Patient Room # 402	Patient Room # 404	Patient Room # 406	Patient Room # 408	Patient Room # 410	Patient Room # 412	Patient Room # 414	Patient Room # 416
Patient Room # 413	Patient Room # 415	Patient Room # 417	Patient Room # 419	Patient Room # 421	Patient Room # 423	Patient Room # 425	Patient Room # 427
Side A		Side B		Side A		Side B	
Patient Room # 414	Patient Room # 416	Patient Room # 418	Patient Room # 420	Patient Room # 422	Patient Room # 424	Patient Room # 426	Patient Room # 428

RETURN

Figure 10

# Freehold Central Office

Total Facility Real Time Consumption

6138 Kw

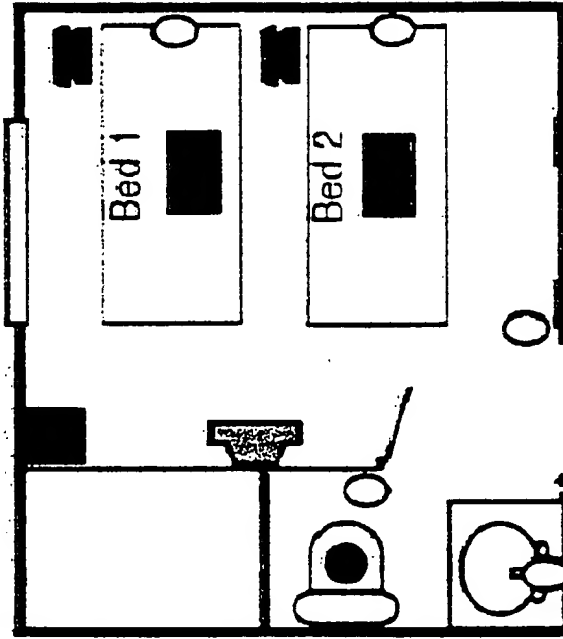
Active Kw	354	Daily Kwh	1963
Last Interval	462	Yesterday Kwh	9804
Daily Peak Kw	592	Monthly Kwh	17635
Monthly Peak	642	Yearly Kwh	580387

Other Utilities Real Time Consumption

Gas Consumption	914	ccf
Steam Consumption	610	%mlb
Steam Demand	457	MLB
Oil Consumption	108	Gal.
Daily Water Consumption	9687	Gal.
Outdoor Temperature	78	°
Indoor Temperature	72	°
Outdoor Humidity	60	%

SONNET

## Room 401



Lighting  
Heating & AC  
Phones  
TV  
Vents

RETURN

251

Actual Room SERVICES FOR

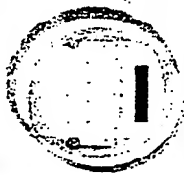
Figure 11



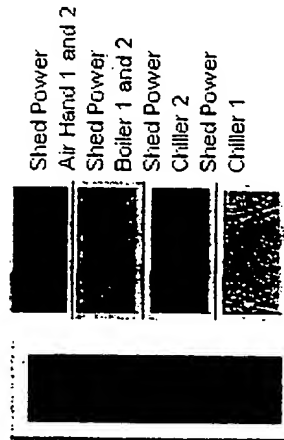
# Electric Adaptive Demand Center

003210

003210

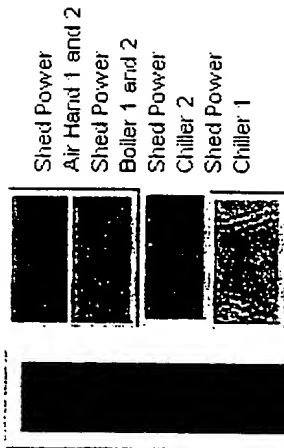


## HVAC Load #1



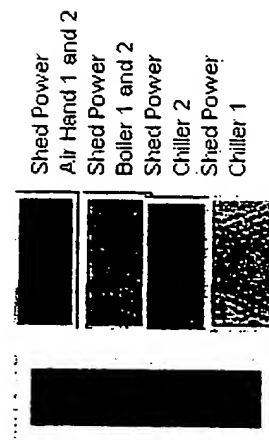
Shed Power  
Air Hand 1 and 2  
Shed Power  
Boiler 1 and 2  
Shed Power  
Chiller 2  
Shed Power  
Chiller 1

## HVAC Load #2



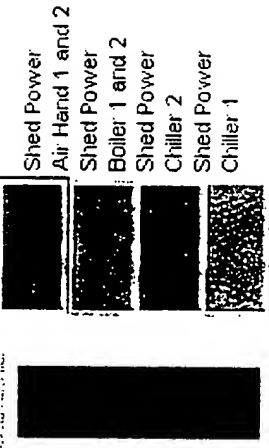
Shed Power  
Air Hand 1 and 2  
Shed Power  
Boiler 1 and 2  
Shed Power  
Chiller 2  
Shed Power  
Chiller 1

## HVAC Load #3



Shed Power  
Air Hand 1 and 2  
Shed Power  
Boiler 1 and 2  
Shed Power  
Chiller 2  
Shed Power  
Chiller 1

## HVAC Load #4



Shed Power  
Air Hand 1 and 2  
Shed Power  
Boiler 1 and 2  
Shed Power  
Chiller 2  
Shed Power  
Chiller 1

271  
Figure 12

# HVAC Efficiency

RETURN



LIGHTING

Present  
Lead

??KW

??KW

Demand



AHU



BACK UP GENERATION



DOMESTIC HEATING

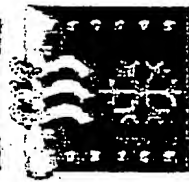


BUILDING HEAT

??Therms/Hour

??KW/Ton

??Therms/Hour



CHILLER

??KW/Ton

??KW/Gal

??Gal/Year



??KW



??KW



??Gal



??Mbs

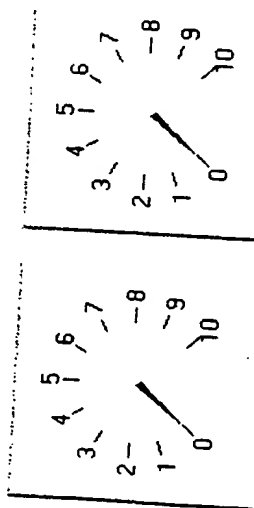
Figure 13

# Power Quality Control For 0

WU 3210

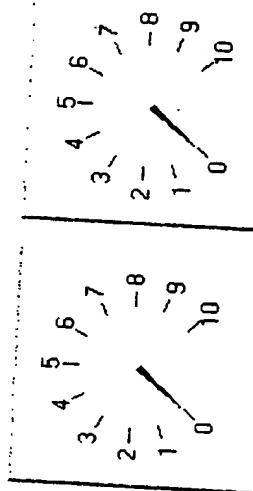


HVAC Load #1



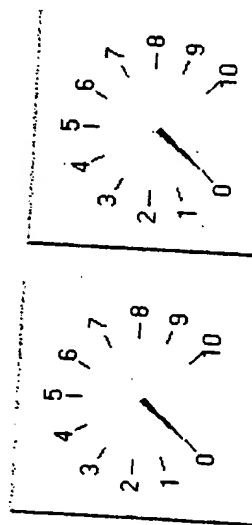
Power Factor Harmonic Distortion

HVAC Load #2



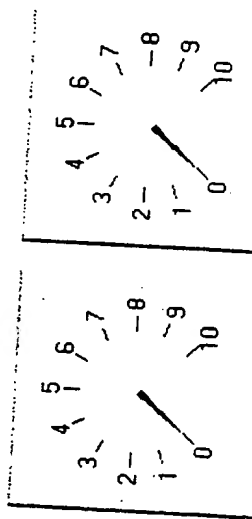
Power Factor Harmonic Distortion

HVAC Load #3



Power Factor Harmonic Distortion

HVAC Load #4

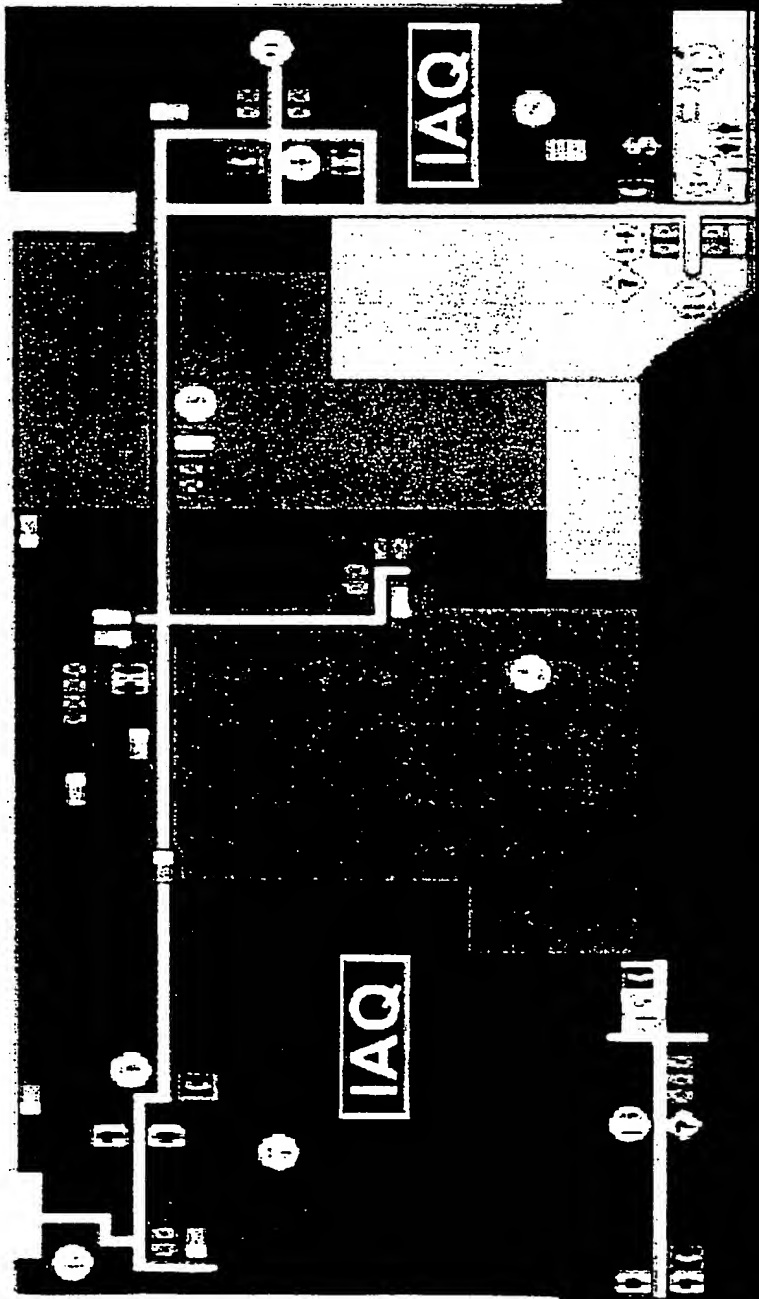


Power Factor Harmonic Distortion

311

Figure 14

# Indoor Air Quality Room Selector For 0, Fourth Floor



Please Select A Room

RETURN

18321

Figure 15



# Indoor Air Quality

RETURN

Acceptable

Level Detected

SO <sub>2</sub> - Sulfur Dioxide =	0.2 ppm	0.14 ppm
H <sub>2</sub> S	0 ppm	0.14 ppm
CO - Carbon Dioxide	1500 ppm	1000 ppm
CO - Carbon Monoxide	1 ppm	2.5 ppm
NO - Nitrous Oxide	37.2 ppm	0.4 p pm
NO <sub>2</sub> - Nitrogen Dioxide	0.7 ppm	0.3 ppm
VOCs - Volatile Organic Compounds	High	Medium
RH - Relative Humidity	44% - 58.4%	
Temp -		

Figure 16

N331

2361

Figure ~~10~~ 17



02407000

# Bell Atlantic North East Energy Net

Click Mouse To View New  
York Map

LOCATION  
MAPS

~ 371

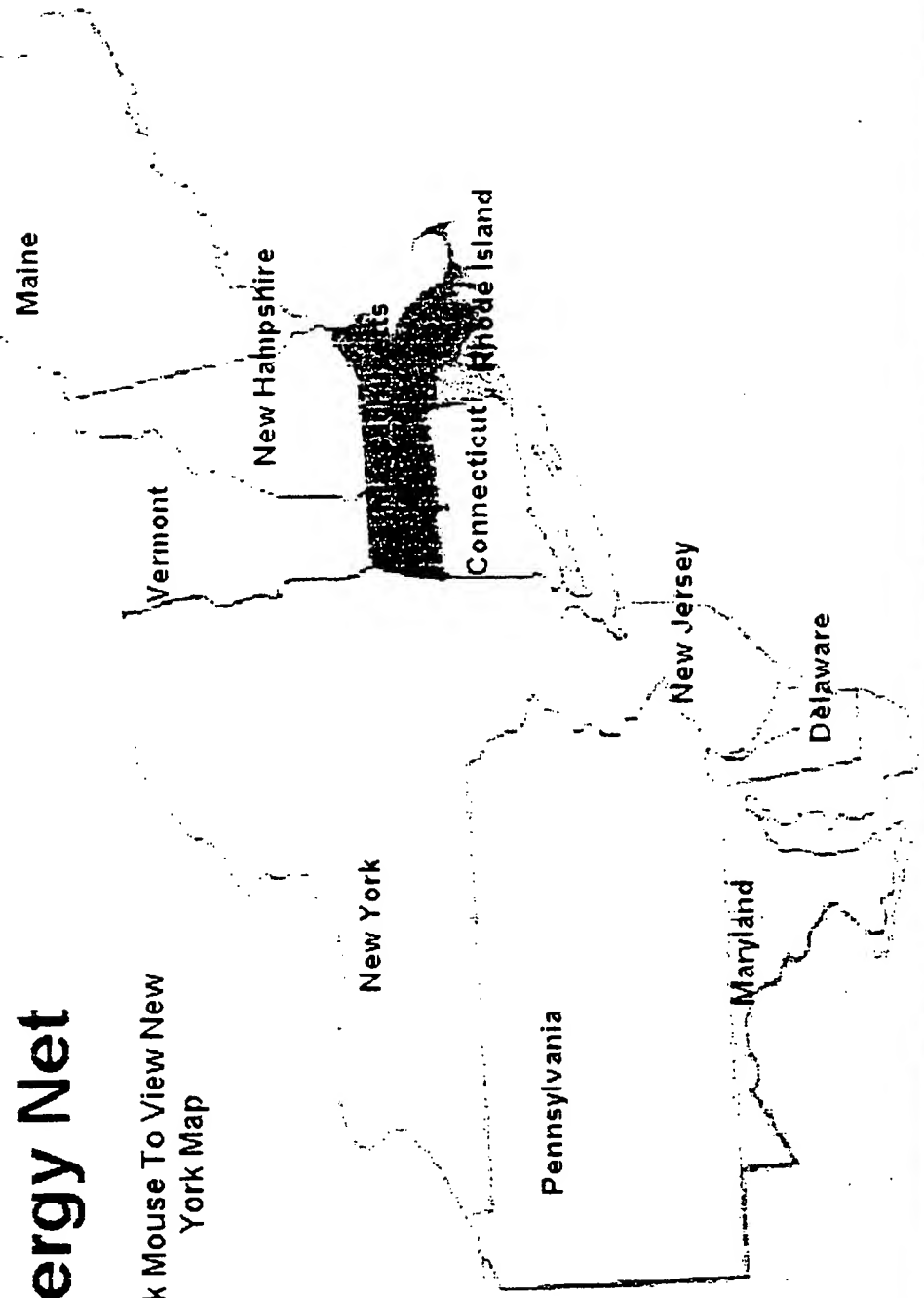
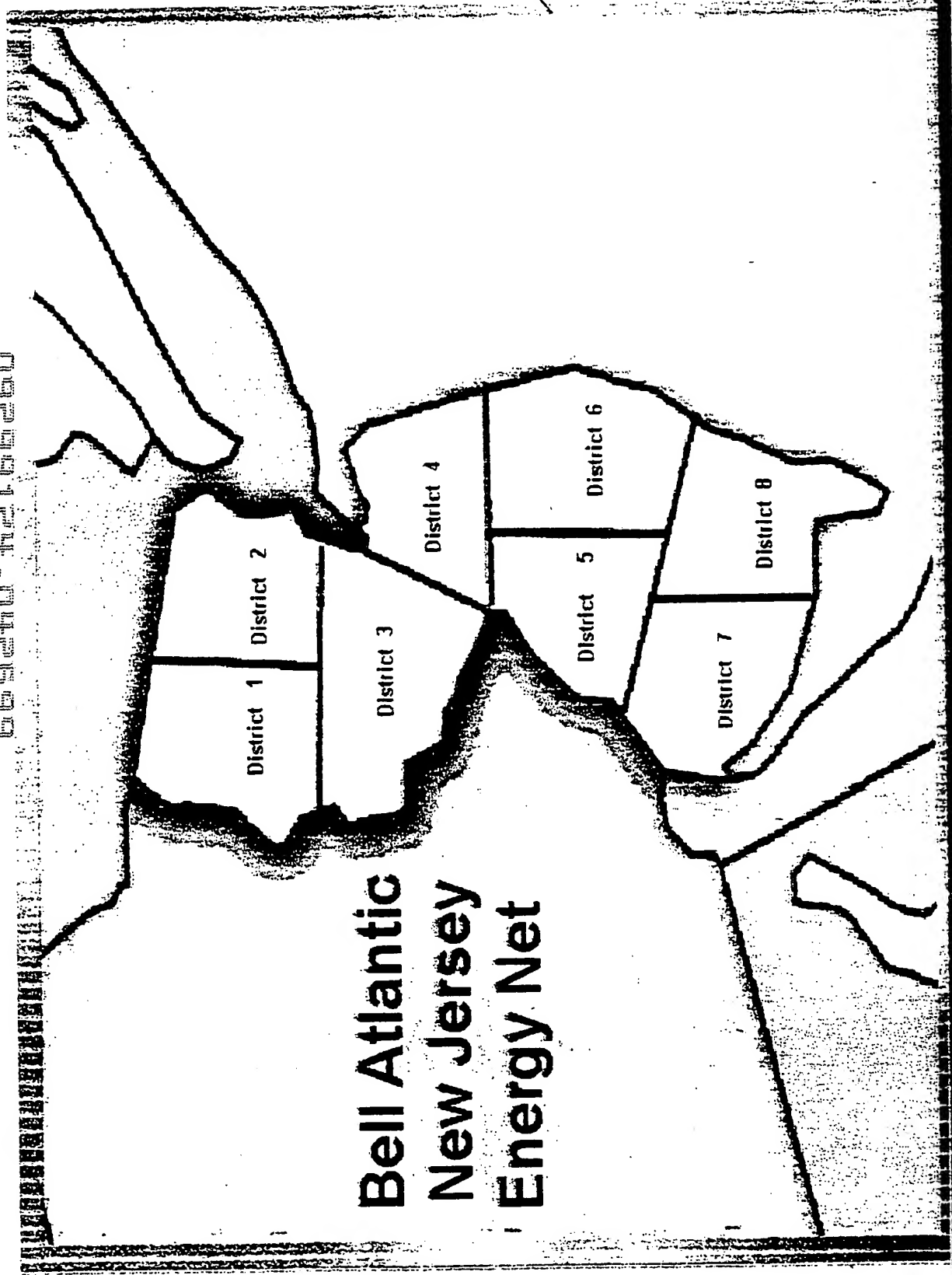


Figure 18

PA1B-118A

SECTION THREE

# Bell Atlantic New Jersey Energy Net



LOCATION  
MAP.

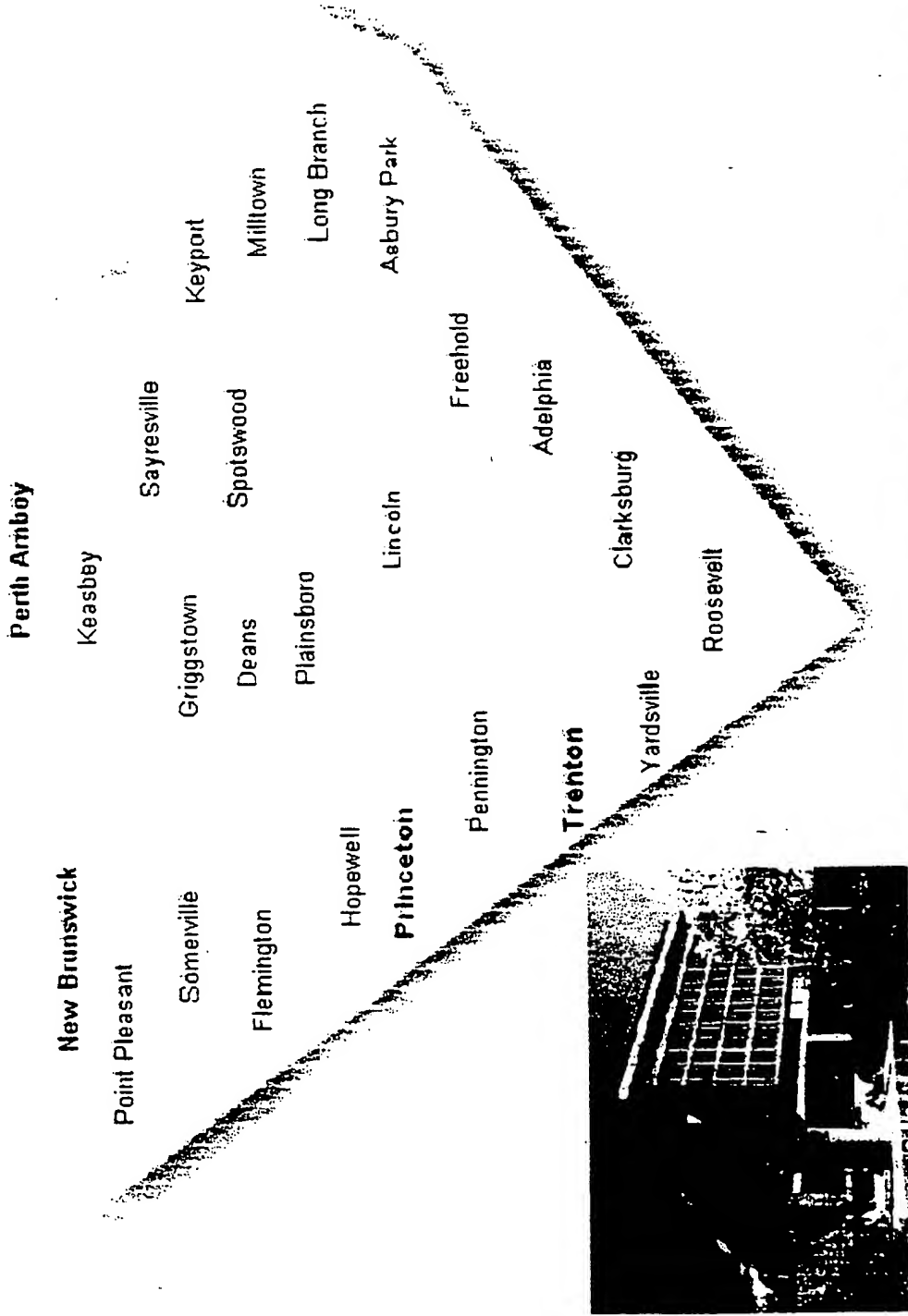
2381

Figure 19

DNB-118A

LOCATION MAP

# New Jersey Energy Net District 4



LOCATION  
MAP

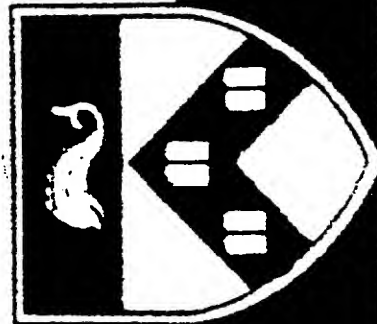
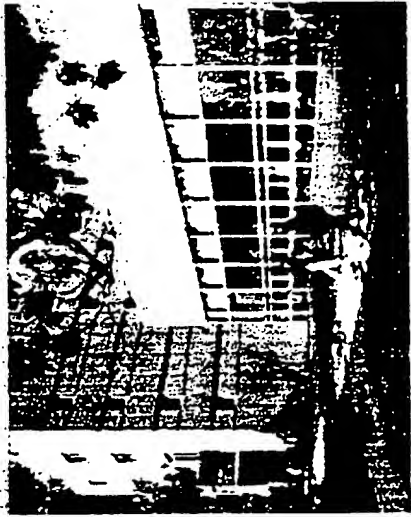
BUILDING  
SITE

~351

Figure 20

Click Here To Select

Founders Hall



Saint Patrick's Health Complex

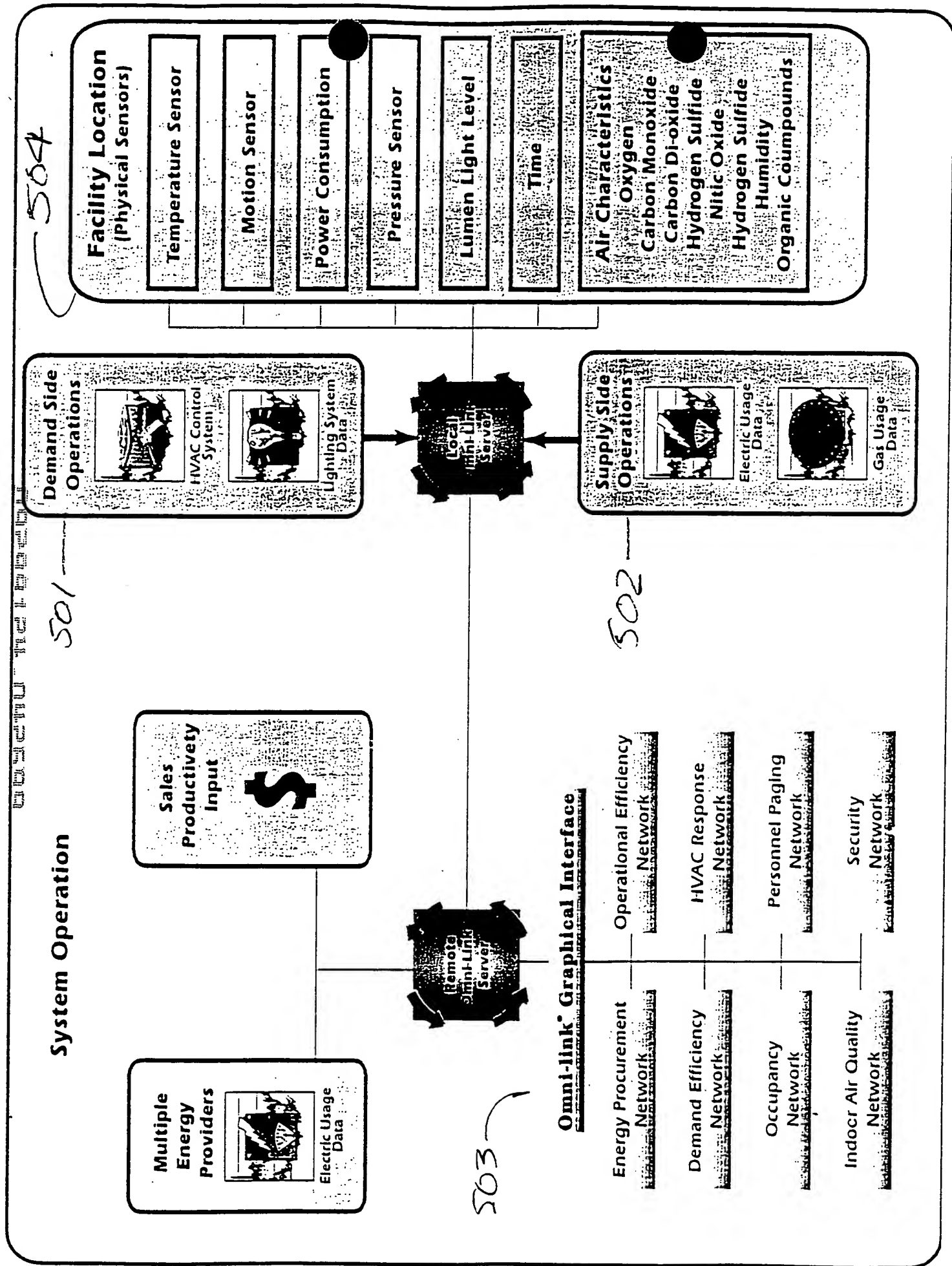
LOCATION  
OF  
BUILDING  
FOR  
CAMPUS  
UNIVERSITY  
&  
HOSPITAL  
LOCATIONS

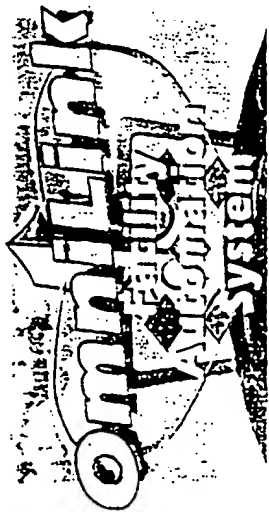
~40/

Figure 30

PWR-118A

FIGURE 22





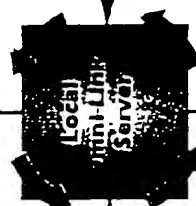
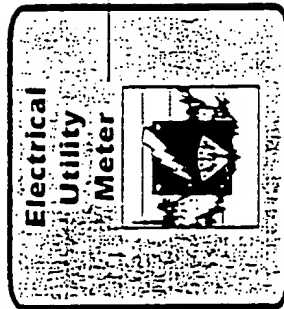
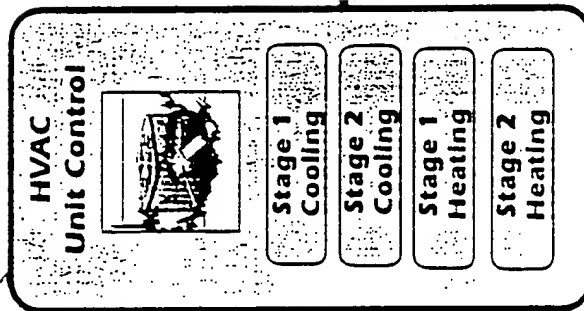
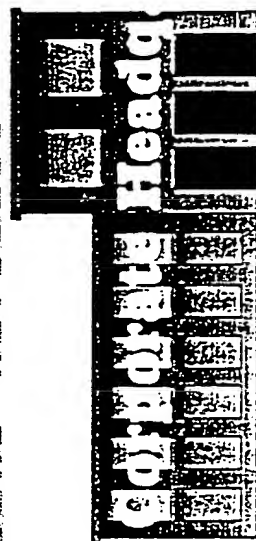
## Demand Efficiency Network

### Net Benefits:

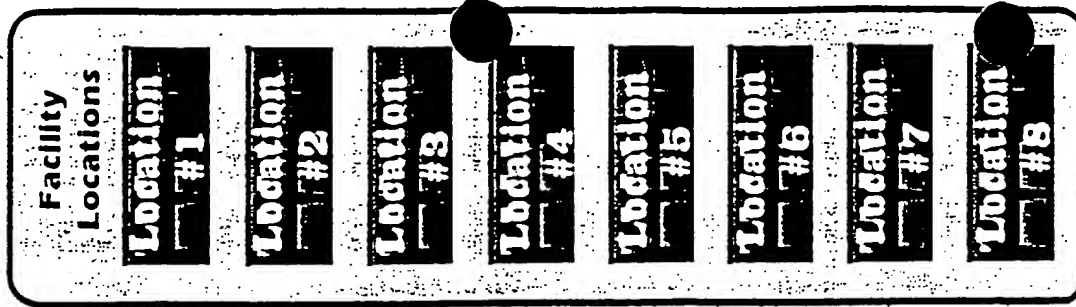
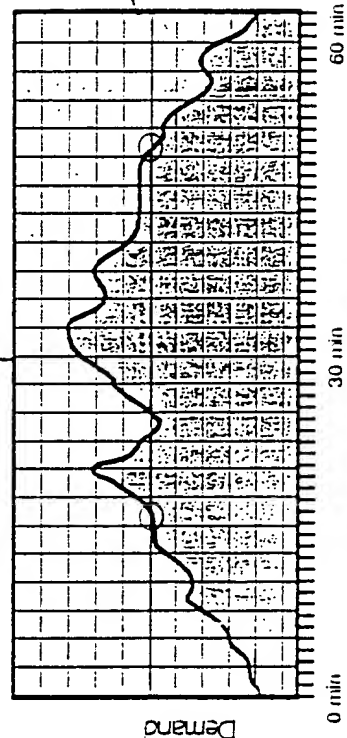
- Centralized demand control
- Localized demand control
- Utility procurement demand control
- Corporate demand profiling
- Pinpoint problem areas

### Net Savings:

- Conservatively a 3 - 10% reduction in electrical demand



Utility Meter Cycle



Master Industries

513

511

512





# Operational Efficiency Network

## Net Benefits:

- Nationwide Simultaneous Operational Control
- Efficient Operations of HVAC & Lighting
- Timeclock efficiency without Human Intervention
- Automatic Space Pre-Heat / Pre-Cool
- Automatic Multi-Stage Lighting

## Net Savings:

- Conservatively 5 - 15% Reduction in Energy Consumption

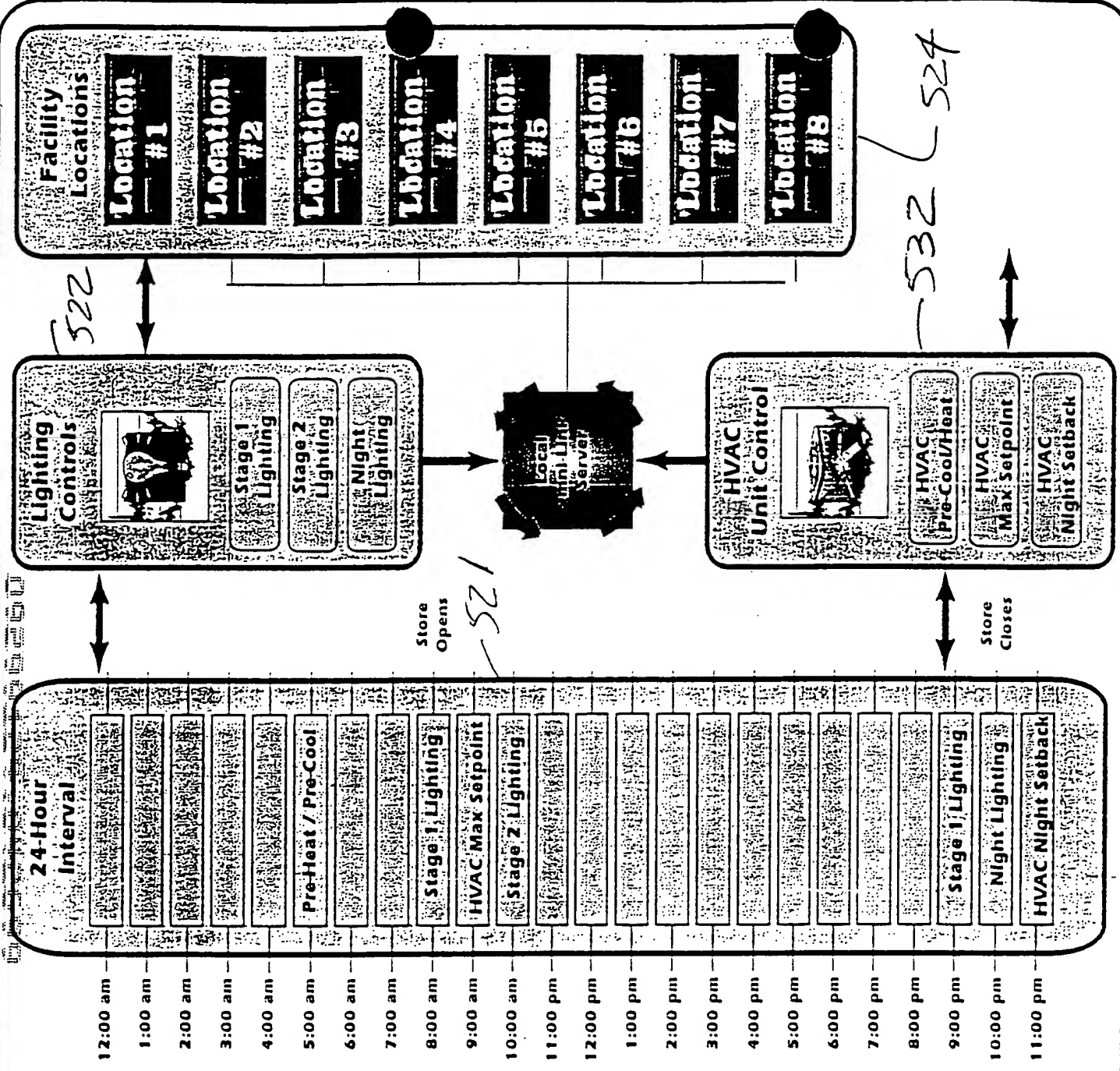


FIGURE 25

Energy Procurement Network



## Energy Procurement Network

### Net Benefits:

- Centralized Procurement Network
- Low cost electricity
- Instant consolidation
- Instant aggregation
- Grid purchase / no middleman

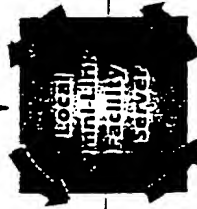
### Net Savings:

- Approximately 10% less than the deregulated price
- Approximate savings 2 to 5 mills



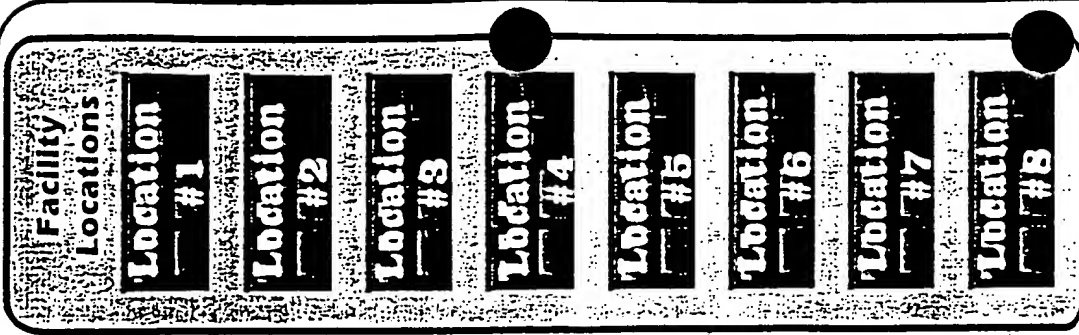
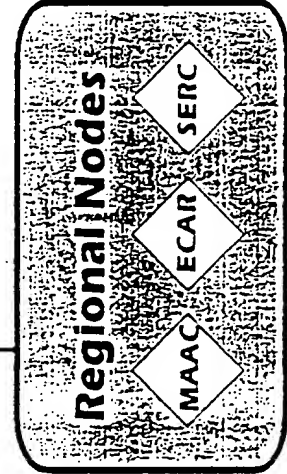
S32

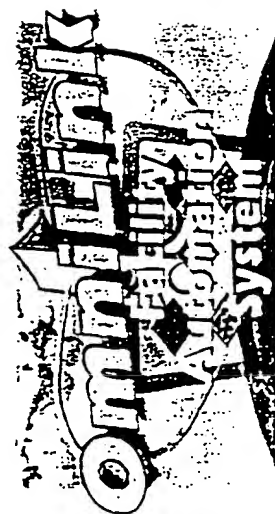
S33



Oasis

S31





## Occupancy Network

## Personnel Paging Network

### Net Benefits:

- Instant store occupancy information
- Instant mall occupancy information
- Instant traffic direction
- Staff requirements / statistical analysis

### Net Savings:

- Labor operational control
- Statistical sales analysis
- Coordination link with demand module

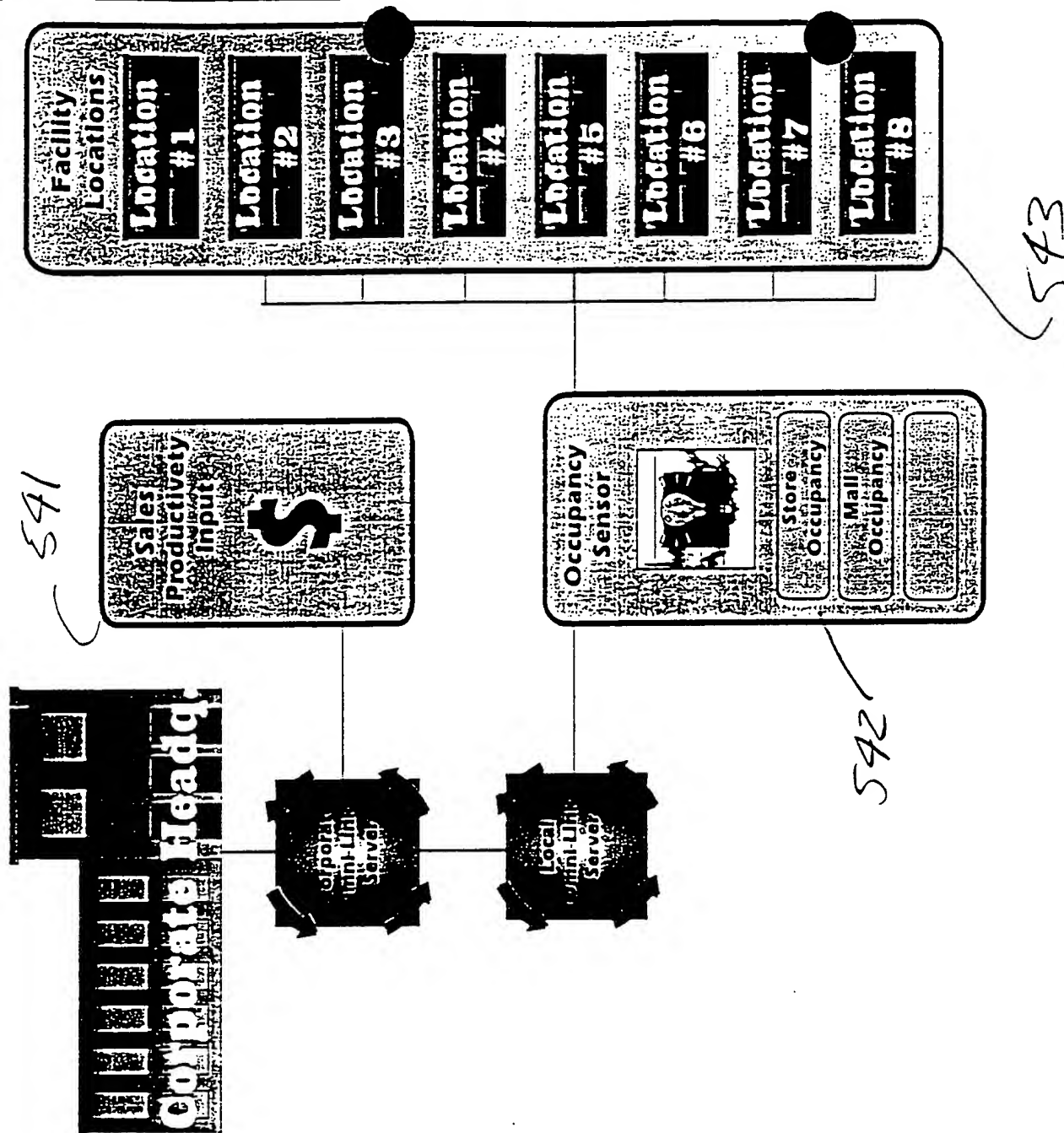
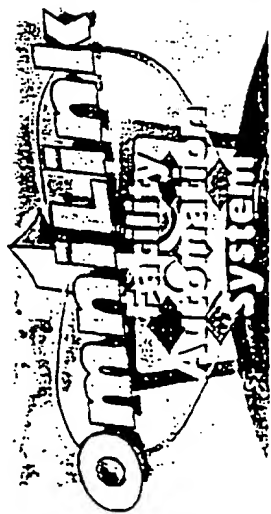


FIGURE 97

Corporate Headquarters



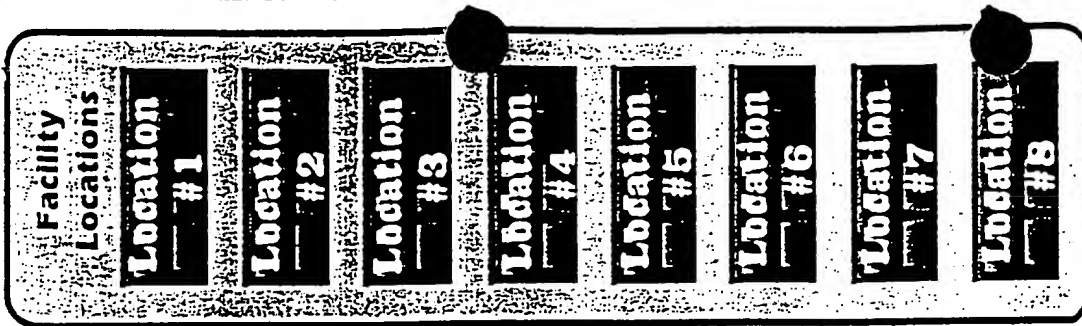
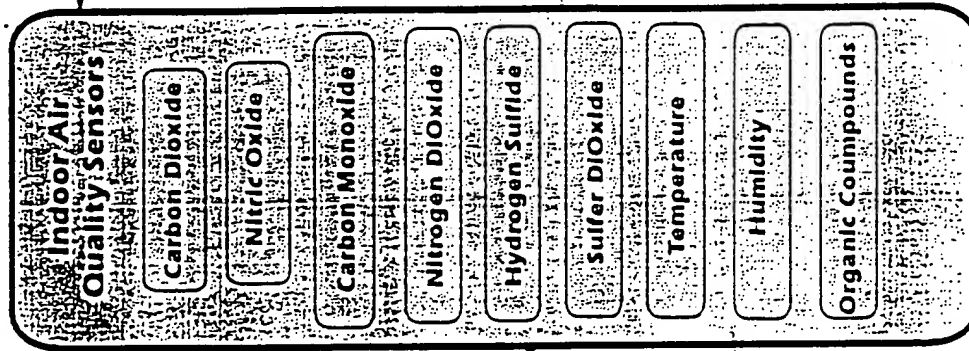
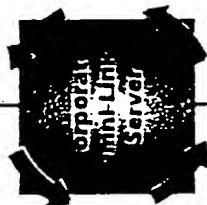
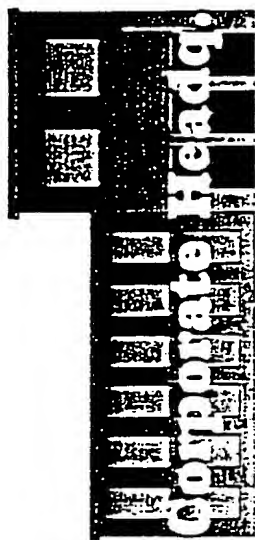
## Indoor Air Quality Network

### Net Benefits:

- Instant health information for employees

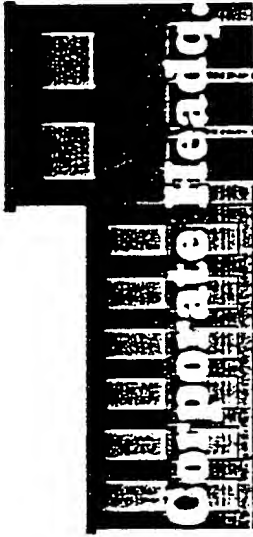
### Net Savings:

- Less Sick Employees
- Less claims for poor air



SS1

SS2



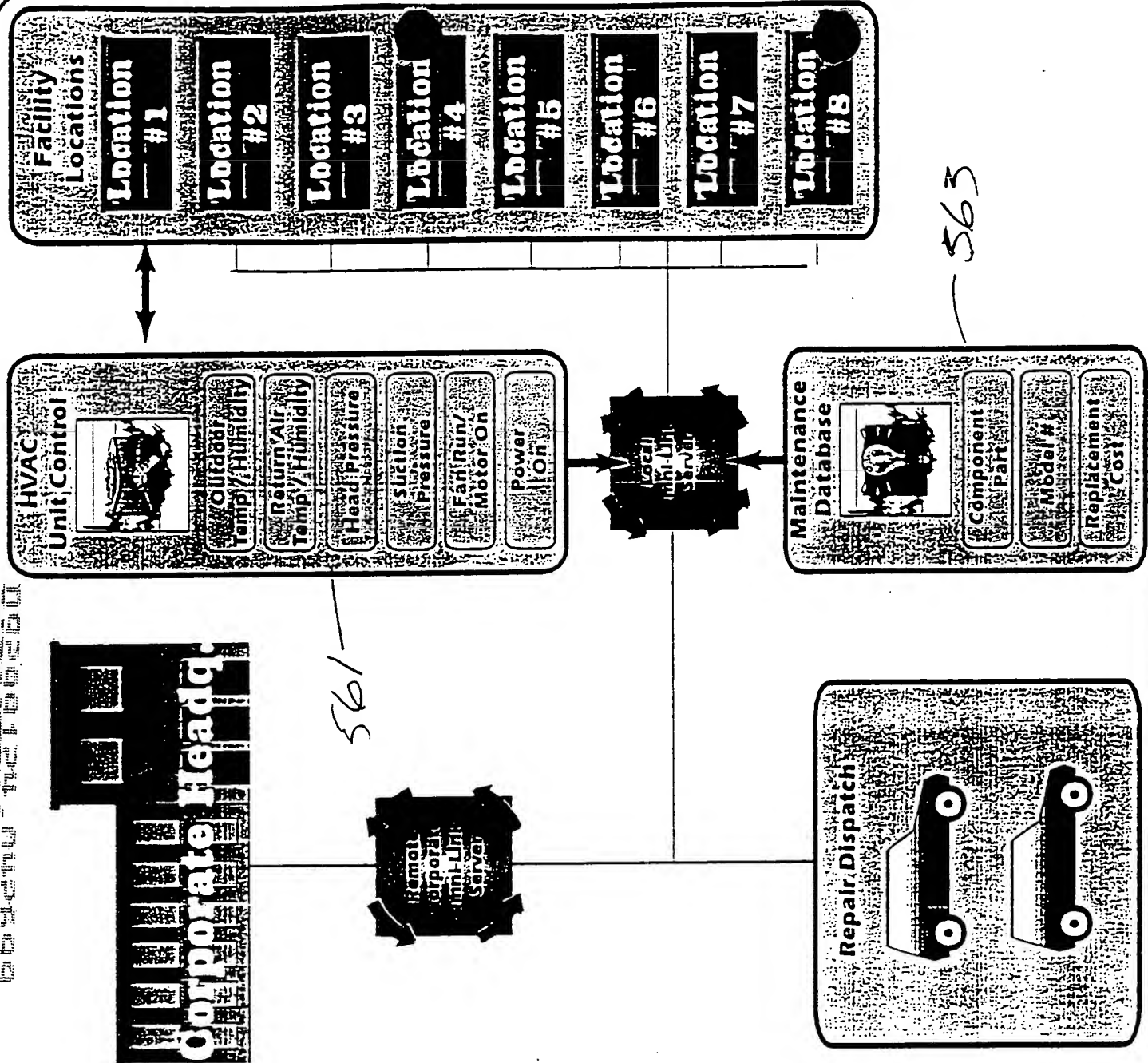
# HVAC Response Network

## Net Benefits:

- Centralized processing for all HVAC service
- Low-priced proactive repair rather than costly reactive service (40%)
- Cost-effective dispatch identifying component malfunction
- Alleviation of false dispatches (30%)
- Track repair cost, repair time, contractor performance, repeated billings
- Embedded program / contractor training

## Net Savings:

- Approximately 80% reduction in false dispatch calls
- Approximately 80% reduction in overtime weekend repairs
- Conservatively a 5 - 15% reduction in



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